CHERNYAK, I. V.

CHERNYAK, I. V. -- "A Comparative Agronomic Evaluation of New Tillage and Deep Waste-Free Loosening of Soil on Plowed and Fallow Soils in the Non-Chernozem Zone." Moscow Order of Lenin Agricultural Academy imeni K. A. Timiryazev. Moscow, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences.)

So; Knizhaya Letopis' No 3, 1956

USSR / Soil Science. Physical and Chemical Properties of Soils. J-2

Abs Jour : Ref Zhur - Biologiya, No 16, 1958, No. 72654

Author : Chernyak, I. V.
Inst : Gomel' Experimental Station
Title : Soil Density and its Practical Value

Orig Pub : Vestn. s.-kh. nauki, 1957, No 2, 124-131

Abstract : In experiments of the Gomel' Experimental Station it was shown that the biological needs of grasses and several grain crops are most completely met by the soil density: minimal - 0.7-1.2, average - 1.2-1.8, maximal - 1.8-2.5. Observations were conducted on sandy and heavily-clayey cultivated soils. Tests in 1956, according to phases of development of oats and lucerne on sandy soil, showed that in a field with surface friability after harvest of the oats and the second mowing of lucerne, the density of the soil was decreased, but its volume weight was increased.

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USSR / Soil Science. Physical and Chemical Properties of Soils. J-2

Abs Jour : Ref Zhur - Biologiya, No 16, 1958, No. 72654

Results are cited of determinations of density, temperature and moisture of sandy soil in phases of development of oats and lucerne. -- V. A. Shreyder

Card 2/2

L 26138-66 EWT(m)/EPF(n)-2/EWP(j)/T/EWA(h)/EWA(l) LIP(c) WW/GG/RM

ACC NR: AP6015061 (A) SOURCE CODE: UR/0190/66/008/005/0961/0962

AUTHOR: Bruk, M. A.; Gromov, V. F.; Chernyak, I. V.; Khomikovskiy, P. M.; Abkin, A. D.

ORG: None

TITLE: Radiation-induced polymerization of tetrafluoroethylene and acrylonitrile at 4.2 K

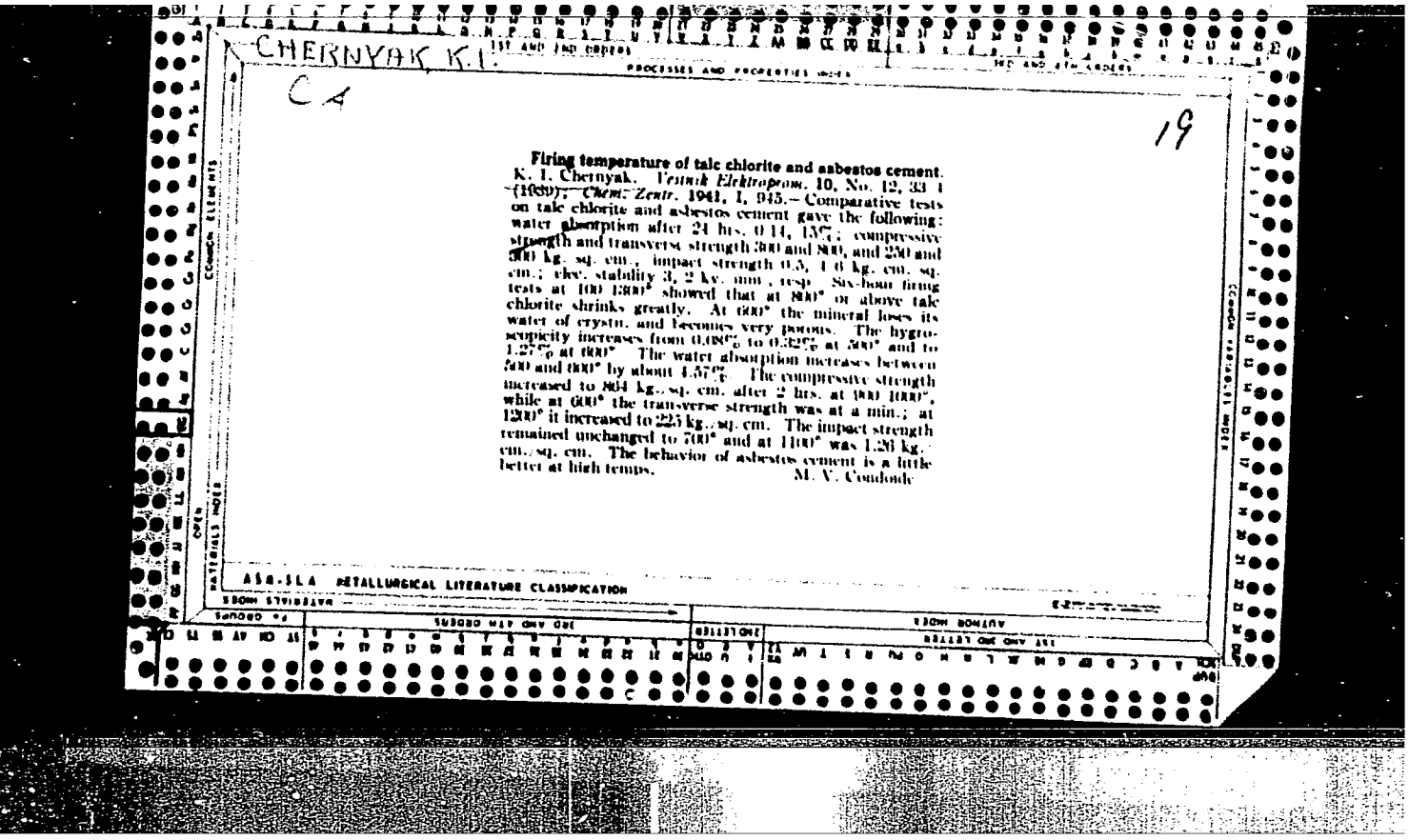
SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 5, 1966, 961-962

TOPIC TAGS: tetrafluorothylene, acrylonitrile, bulk polymerization, low temperature polymerization

ABSTRACT: Polymers of tetrafluoroethylene or acrylonitrile have been prepared by bulk radiation-induced polymerization of the monomers at 4.2 K. Molten monomer samples were frozen at a given rate in liquid nitrogen, placed in a cryostat with liquid helium, and irradiated. Defrosting of the samples was conducted under conditions which excluded post-polymerization. The authors assume that in the course of polymerization of the monomers at low temperatures the bulk temperature of the samples does not determine the character of the polymer chain formation, which takes place in "hot" regions. The polymer chains grow before relaxation of the vibration excitation of molecules in "hot" regions has time to occur. The authors also assume that polymerization follows the cooperative mechanism which does not require activation for the addition of individual monomer molecules. Orig. art. has: 1 figure. [BO]

SUB CODE: 07, 11/ SUBM DATE: 06Jan66/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 4251

Card 1/1



CHERNYAK, K.I.

CA

19

Firing temperature of talc chlorite and asbestos cement. K. I. Chernyak. *Vestnik Elektroprom.* 10, No. 12, 33-4 (1939); *Chem. Zentr.* 1941, I, 945.—Comparative tests on talc chlorite and asbestos cement gave the following: water absorption after 24 hrs. 0.14, 13%; compressive strength and transverse strength 300 and 800, and 250 and 500 kg. sq. cm., impact strength 0.5, 1.0 kg. cm. sq. cm.; elec. stability 3, 2 kv. mm., resp. Six-hour firing tests at 100-1300° showed that at 800° or above talc chlorite shrinks greatly. At 600° the mineral loses its water of crystn. and becomes very porous. The hygroscopicity increases from 0.08% to 0.32% at 500° and to 1.27% at 600°. The water absorption increases between 500 and 600° by about 4.57%. The compressive strength increased to 804 kg./sq. cm. after 2 hrs. at 900-1000°, while at 600° the transverse strength was at a min.; at 1200° it increased to 225 kg./sq. cm. The impact strength remained unchanged to 700° and at 1100° was 1.30 kg./cm./sq. cm. The behavior of asbestos cement is a little better at high temps.

M. V. Condoide

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

12

Dielectric composition. K. I. Chernyak. U.S.S.R. 69,749, Nov. 30, 1947. A dielectric embedding compd. is made of paraffin, ceresin, halowax, or their mixt. fused with polyethylene, polyisobutylene, or their mixt.

M. Hosch

Uses of Epoxy Compounds

insulators). Epoxy compounds are produced on the basis of dian resin with maleic or phthalic anhydride or with tri-ethanolamine (hardeners) and a pulverized quartz sand or talcum (filler). The tensile strength of epoxy compounds reaches 800 kg/cm^2. The hardener is selected and the compound formula assigned depending on its purpose. For insulating small components having a small quantity of metal, a resin-hardener or a resin-hardener-plasticizer epoxy compound is suitable. For large metal masses, introduction of a filler is necessary; the heavier the metal part, the greater the amount of filler used. Hardening of an epoxy compound is an exothermal process. Introducing great amounts of an inorganic filler smoothes this process, eliminating the overheating hazard. In producing an epoxy compound, the resin and filler, prior to addition of the hardener, are heated to 120-160°C to eliminate moisture and air, then the filler and resin are mixed, heated, and placed under vacuum until gas bubbles cease to evolve. After the resin-and-

Uses of Epoxy Compounds

filler vacuumizing is over, the hardener is introduced; the compound is cautiously but carefully stirred and becomes ready for use. The components to be insulated are heated up to a specified temperature and the expoy compound is poured under vacuum, or at atmospheric pressure, or sometimes under pressure. The molds filled with the compound are maintained hot for a certain period at a specified temperature until the compound is completely cured.

P.I.Z.

15(6), 8(0) SOV/112-59-4-6483

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, p 11 (USSR)

AUTHOR: Kocharli, Bakhyshev

TITLE: Temperature Dissociation of Liquid Dielectrics

PERIODICAL: Uch. zap. Azerb. un-t, 1955, Nr 12, pp 31-36 (Original in Azerbaydzhan, Summary in Russian)

ABSTRACT: Viscosity and conductivity of MK-22 oil and its 3-, 5-, 10-, and 20-per cent mixtures with nitrobenzene have been measured. With an increase in nitrobenzene content, temperature dissociation changes very slightly, conductivity increases, and viscosity decreases. Effect of temperature on the viscosity and conductivity of oil or mixture is exponential.

P.I.Z.

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5(5) PHASE I BOOK EXPLOITATION SOV/3039

Chernyak, Konstantin Isaakovich

Epoksidnyye kompaundy i ikh primeneniye (Epoxy Compounds and Their Application) Leningrad, Sudpromgiz, 1959. 132 p. Errata slip inserted. 3,800 copies printed.

Scientific Ed.: N.P. Bogoroditskiy, Professor; Ed.: M. A. Antekman; Tech. Ed.: N.V. Erastova.

PURPOSE: This book is intended for engineers and technicians engaged in the production or utilization of epoxy compounds. It may be used by teachers and students in electrical engineering schools.

COVERAGE: The book gives the results of an extensive study of the physicomechanical and electrical properties of epoxy compounds and the effect of operational conditions on them. Classification, specifications, and the composition of principal compounds are given, including one synthesized from epoxy resins, liquid thiokol latex, and an acidic hardener, that polymerizes at low temperature. Data on foam epoxy, heat-resistant epoxy insulating materials, and new principles for the production of cast high-voltage insulators are set forth.

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Epoxy Compounds and Their Application SOV/3039

Flow sheets and information on equipment used to produce these compounds are also given. Safety techniques and concrete examples of the application of epoxy compounds in high-voltate equipment are included. The author thanks Professor N.P. Bogoroditskiy for his editorial assistance. There are 22 references: 10 German, 7 English, and 5 Soviet.

TABLE OF CONTENTS:

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Epoxy Compounds and Their Applications SOV/3039

AVAILABLE: Library of Congress

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TM/gmp
1-8-60

SEREDENKO, M.M., kand.ekon.nauk; KUGUSHEV, M.F. [Kuhushev, M.F.]; PRAVDIN, M.V.; FOMICHEV, V.I.; ALEKSANDROVA, V.P.; GORODETSKIY, N.I. [Horodets'kyi, N.I.]; DYATLOV, T.I.; KALITA, M.S. [Kalyta, M.S.]; DARAGAN, M.V. [Darahan, M.V.]; RADINA, Yu.M.; VOROB'YEVA, K.T. [Vorobyova, K.T.]; LASTIVKA, N.N.; STARODUBSKIY, R.D. [Starodubs'kyi, R.D.]; YATSENKO, P.F.; MUROMTSEVA, G.M. [Muromtseva, H.M.]; RASNER, S.I.; CHERNYAK, K.I.; KOBILYAKOV, I.I. [Kobyliakov, I.I.]; ALEKSANDROVA, V.O., kand.ekonom.nauk, otv.red.; DEMIDYUK, V.F. [Demydiuk, V.F.], red.; LIBERMAN, T.R., tekhn.red.

[Ways of increasing profits in metallurgical industries] Shliakhy pidvyshchennia rentabel'nosti metalurgiinykh pidpryiemstv. Kyiv, Vyd-vo Akad.nauk URSR, 1961. 93 p. (MIRA 14:6)

1. Akademiya nauk USSR, Kiyev. Institut ekonomiki. 2. Institut ekonomiki AN USSR (for Seredenko, V.P.Aleksandrova, Kalita, Daragan, Radina). 3. Dnepropetrovskiy khimiko-tekhnologicheskiy institut (for Gorodetskiy, Dyatlov). 4. Dneprodzerzhinskiy metallurgicheskiy institut (for Kobilyakov).

(Dnepropetrovsk Province—Steel industry—Costs)

CHERNYAK, Konstantin Isaakovich; SHTRAYKHMAN, G.A., kand. tekhn. nauk, retsenzent; BOGORODITSKIY, N.P., prof., nauchnyy red.; APTEKMAN, M.A., red.; FRUMKIN, P.S., tekhn. red.

[Epoxy compounds and their use] Epoksidnye kompaundy i ikh primenenie. Izd.2., perer. i dop. Leningrad, Sudpromgiz, 1963. 254 p. (MIRA 16:5)
(Epoxy resins)
(Electric insulators and insulation)

CHERNYAK, Kh. B.

Dissertation defended for the degree of Doctor of Historical Sciences in the Institute of History

"Mass Movement in England and Ireland at the End of the XVIII-Beginning of the XIX Century."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

CHERNYAK, Kh. Kh.

"Concentrated Felling of Trees in the Western and Southeastern Parts of the Central Urals and the Rate of Their Natural Afforestation," Sub 28 Jun 51, Moscow Forestry Inst.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

SHCHERBAKOV, A.M.; CHERNYAK, Kh.M.; GOL'DMAN, V.B., nauchn. red.
CHIGAREVA, E.I., red.; KOVALEVSKAYA, I.F., tekhn. red.

[Mechanization of the placement of fertilizers] Mekhanizatsiia vneseniia udobrenii. Moskva, 1963. 83 p. (Kompleksnaia mekhanizatsiia i avtomatizatsiia predpriiatii. Seriia 1-63) (MIRA 17:1)

1. TSentral'nyy institut nauchno-tekhnicheskoy informatsii po avtomatizatsii i mashinostroyeniyu.

64462

S/112/59/000/014/014/085
A052/A001

26.2121

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 14, p. 32, # 28753

AUTHORS: Semichev, V. G., Chernyak, Kh. T., Golovin, Yu. D., Shabashov, S.Z., Kruglov, G. P.

TITLE: Gas-Turbine Unit GT-700-4 With Centrifugal Supercharger 280-11-2

PERIODICAL: Tr. Nevsk. mashinostroit. z-da, 1957 (1958), No. 1, pp. 69-91

TEXT: The main features of centrifugal superchargers with a gas-turbine drive for pumping stations of the main gas pipelines are: a variable number of revolutions permitting the maintenance of a high efficiency at considerable deviations of the load from the rated level; the utilization of gaseous fuel; starting by means of the turbine compressed-gas driven engine. The gas turbine of 4.8 atm and 700°C has 2 cylinders and a composite rotor. The disks of the initial stages are air-cooled (up to 1.5% air). The central (flow) part of the turbine consists of 6 stages, the first three having a low degree of reaction and the last with a 50% reaction. According to the experimental data the

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Gas-Turbine Unit GT-700-4 With Centrifugal Supercharger 280-11-2

efficiency of the turbine must be not lower than 87%. A 17-step compressor is assembled of profiles with a 100% reaction and with a relatively low coefficient of discharge. The combustion chamber has been designed on the basis of investigations carried out on models in the Kiyev Polytechnic Institute. Its thermal intensity is $6.5 \cdot 10^6$ kcal/m^3 hour. A high degree of heat regeneration (75%) is secured by a small-size plate air heater. A hydrodynamic control system maintains a constant pressure of the delivered gas. Control, protection and inspection systems permit the remote start and stop of the installation by means of a program time relay.

V. S. P.

Translator's note: This is the full translation of the original Russian abstract.

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Y

CHERNIAK, L. and others

V Khar'kove stroitsia liubitel'skii televizionnyi tsentr. [An amateur television center is being built in Kharkov]. (Radio, 1948, no. 6, p. 13).

DLC: TK540.R76

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

KUZIN, P.; CHERNYAK, L.; ZAREMBO, K.

Brief news. Gaz. prom. no.9:52-56 S '58. (MIRA 11:10)
(Gas pipes) (Petroleum industry)

Blast-furnace waste-pile slag as component for cold asphalt beton. I. L. Revelis and L. A. Chernyak. *Trudy Khar'kov. Avtomobil.-Dorozh. Inst.* No. 15, *Sbornik Studencheskk. Nauch. Rabot* 1953, No. 8, 17-19; *Referat. Zhur., Khim.* 1954, No. 48705.—A comparison was made of the asphalt concrete properties made with slag and with granite gravel. No significant difference between the two were found. M. Hoseh

(1)

BERNOVSKAYA, N.A.; CHERNYAK, L.B.

Operation of the dephenolization section of the Kohtla-Jarve Combine. Gaz.prom. 4 no.10:22-25 O '59. (MIRA 13:2)
(Kohtla-Jarve--Sewage) (Phenols)

CHERNYAK, L. I.

7567 CHERNYAK, L. I. TIPOVOY proyekt detskikh yasley na 88 mest. (Zdaniye Kirpichnoye). Izm. K proyektu - V svyazi s umen'sheniyem stoimosti stroitel'stva. Izd. 5-ye-M., 1953 (vyp. dan. 1954) 34 s. i 5 L. chert. 30 sm (M-vo zdravookhraneniya SSSR. Giprozdrav. Proyekt No 779-3 (51)). 500 ekz. (250). 11 r.- Avt. proyekta: Chernyak, L. I., Svetogr. izd.-
(55-3093) 613.953.4:692

SO: Knizhnaya LeTopis - Vol. 7, 1955

CHERNYAK, L.I., arkhitektor

Use of prefabricated buildings. Zdrav.Ros.Feder. 4 no.11:5-7 '60.
(MIRA 13:11)

1. Iz Proyektnogo instituta Ministerstva zdravookhraneniya RSFSR
(HOSPITALS, RURAL)
(BUILDINGS, PREFABRICATED)

CHERNYAK, L.L.

4

36950
S/142/61/004/006/015/017
E192/E382

9,2585

AUTHORS: Bolotin, L.I., Volkov, V.I., Lesnykh, M.S., Lyapkalo, Yu.M., Merzlikin, V.A., Pipa, A.V., Sidorenko, I.S. and Chernyak, L.L.

TITLE: A high-power pulsed oscillator

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 4, no. 6, 1961, 726 - 728

TEXT: Generation of high-power bursts of ultrashort-wave frequencies is of importance in linear accelerators of heavy particles. A pulsed oscillator based on the triode, type ГИ-4А (GI-4A), was therefore developed. Constructionally, the oscillator is based on coaxial tuned circuits, in which the tube operates as a grounded-grid system (Ref. 1 - M.S. Neyman - Triode and tetrode generators for UHF (Triodnyye i tetrodnyye generatory SVCh), Sovetskoye radio, 1950). The anode-grid resonant circuit is in the form of a quarter-wave line, terminated with the interelectrode capacitance Cag (Fig. 1). Since the external diameter D = 33 cm, internal diameter d = 14 cm and Cag = 35 pF, the resonance frequency is 142 Mc/s and the length h of the anode grid-tuned circuit is 19 cm;

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A high-temperature ....

these calculated data were verified experimentlly. The cathode-grid circuit is in the form of a short-circuited polycylindrical coaxial section of a half-wave line; this is terminated with the capacitance Cag . The feedback is provided by three non-adjustable loops positioned at angles of 120° with respect to each other, in such a manner that the loops pass through the common wall of the resonators. The separator condenser in the anod-grid circuit consists of six groups of condensers, each consisting of two condensers in series. The oscillator was tested with an 82-Ω resistive load, which was in the form of a polystyrol cylinder with a water solution of sodium carbonate. It was possible to obtain a maximum power of 1.2 MW with an anode voltage of 32 kV and pulse duration of 450 μs. The oscillator was also tested with a high-Q load formed by the resonator of a linear proton accelerator; this had a resonance frequency of 142 Mc/s and a quality factor of 50 000. It was found that at an anode voltage of 36 kV the resonator of the accelerator received a power of the order of 500 kW, so that the protons could be accelerated up to energies

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4

A high-temperature ....

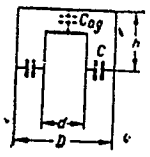
S/142/61/004/006/015/017
E192/E382

of 5.5 MeV. There are 4 figures.

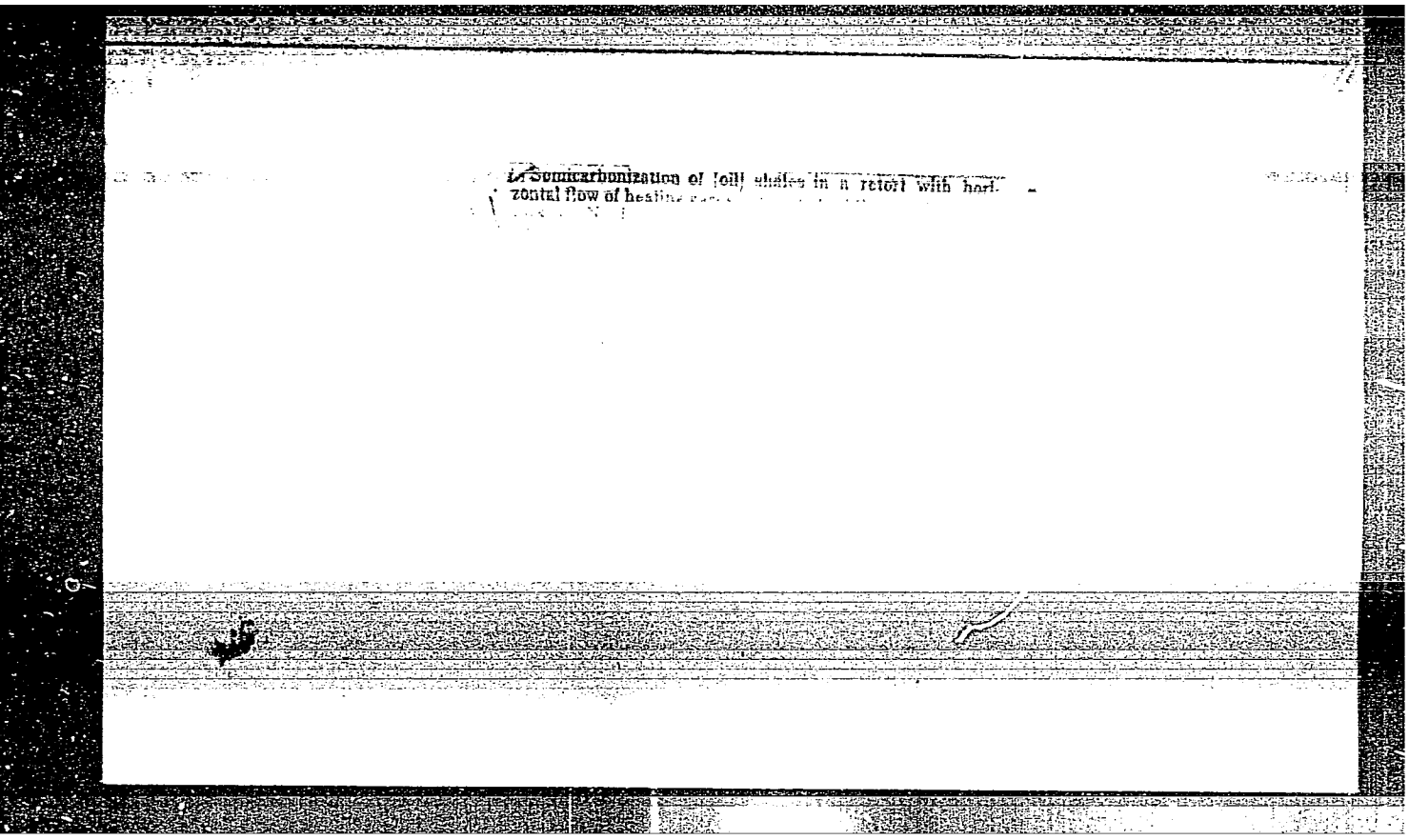
ASSOCIATION: Uchenyy sovet FTI AN UkrSSR
(Learned Council of FTI AS UkrSSR)

SUBMITTED: April 28, 1961

Fig. 1:



Card 3/3



SOROKIN, Aleksey Ivanovich; GROZOV, Nikolay Vasil'yevich; STEPANOV, Aleksandr Makarovich; STAROSTIN, Yevgeniy Il'ich; CHERNYAK, Lev Mikhaylovich; BOKSERMAN, Yu.I., red.; SVYATITSKAYA, K.P., ved. red.; YAKOVLEVA, Z.I., tekhn. red.

[Liquefied gases in England; their transportation, storage, uses] Szhizhennye gazy v Anglii; transport, khranenie, ispol'zovanie. Moskva, Gostoptekhizdat, 1963. 140 p. (MIRA 16:10)

(Great Britain--Liquefied petroleum gas)

SOROKIN, A.I., red.; ALEKSANDROV, A.V., red.; KLIMUSHIN, A.M., red.; KOPYTOV, V.F., red.; TREBIN, F.A., red.; TURKIN, V.S., red.; CHERNYAK, L.M., red.; SOROKIN, A.I., red.; ZUBAREVA, Yelena Ivanovna, ved. red.; SOLGANIK, Grigoriy Yakovlevich, ved. red.; POLOSINA, A.S., tekhn.red.

[Techniques used in the gas industry of foreign countries] Zarubezhnaia tekhnika gazovoi promyshlennosti; doklady. Moskva, Gostoptekhizdat, 1963. 386 p. (MIRA 17:2)

1. International Gas Congress. 7th, Stockholm. 1961.

SOROKIN, A.; TREBIN, F.A.; CHERNYAK, L.M.; POPOV, A.

Foreign technology. Gaz. prom. 8 no.4:50-54 '63. (MIRA 17:10)

SOROKIN, Aleksey Ivanovich; CHERNYAK, Lev Mikhaylovich

[Liquefied methane in foreign countries] Szhizhennyi metan za rubezhom. Moskva, Nedra, 1965. 133 p. (MIRA 18:10)

1. CHERNYAK, L.O.

2. USSR (600)

4. Hospitals

7. First results of standardized planning of medical and sanitation buildings, Biul. stroi.tekh. 10 no. 9, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

GRANAT, N.Ye., kand.med.nauk; CHERNYAK, L.O., arkhitektor (Moskva)

Standard designs for obstetrics buildings for rural hospitals. Sov.zdrav. 21 no.10:72-77 '62. (MIRA 15:10)

1. Iz Instituta akusherstva i ginekologii (dir. - prof. O.V. Makeyeva) i Proyektnogo instituta Ministerstva zdravookhraneniya RSFSR (dir. A.A.Zhdanovich).
(HOSPITALS, GYNECOLOGIC AND OBSTETRIC)

CHERNYAK, L. V.

"Construct Peat Enterprises Better and More Rapidly," Torf. prom., 29, No.6, 1952

CHERNYAK, L.V.

For further development of the peat industry. Torf. prom. 33 no.8:24-26 '56. (MLRA 10:2)

1. Trest "Lentorfostroy."
(Peat industry)

CHERNYAK, L. YA.

PA 41T14

USSR/Electricity Jan 1948
Motors, Electric
Motors - Tests

"Methods of Carrying Out Tests on Asynchronous Loaded Electric Motors," L. Ya. Chernyak, Engr, Tsentro-EnergoCherMet, 4½ pp

"Prom Energetika" No 1

Discusses some methods of testing the basic parameters of asynchronous electric motors (I,U,cosφ, n, and η). Notes that certain steps must be taken before tests can be conducted. Method suggested is incomplete but can be used as an emergency method at industrial plants, etc.

41T14

CHERNIAK, L. YA.

PA 35/49T74

USSR/Mining Equipment
Electrical Equipment

Jan 49

"Raising the Power Factor in Enterprises of the Mining Industry," L. Ya. Chernyak, Engr Tsentroenergo-chermet, 1 p

"Prom Energet" No 1

Decides that two fundamental measures expedient for increasing the power factor are: (1) choosing electric motors for the mechanism (crushers, grinders, etc.) with strict regard to the calculated data of the power required for these machines, and (2) organization of the technological processes of mining and crushing considering the maximum loading for

35/49T74

USSR/Mining Equipment (Contd)

Jan 49

both basic and auxiliary machines.

35/49T74

POYARKOV, M.F.; CHERNYAK, L.Ye., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor

[Rural electric power plants and substations] Sel'skie elektricheskie stantsii i podstantsii. Gos. izd-vo selkhoz. lit-ry, 1954. 399 p. [Microfilm] (MLRA 7:9)
(Rural electrification)
(Electric power plants)

POYARKOV, Mikhail Fedorovich; POYARKOVA, Tat'yana Mikhaylovna; GLAZATOV, N.N., red.; CHERNYAK, L.Ye., red.; GOR'KOVA, Z.D., tekhn.red.; PEVZNER, V.I., tekhn.red.

[Laboratory and practical studies on rural electric stations and substations] Laboratorno-prakticheskie zaniatiia po sel'skim elektricheskim stantsiiam i podstantsiiam. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1958. 212 p. (MIRA 11:6)
(Electric power plants) (Electric substations)

BOGUSLAVSKIY, Sergey Anatol'yevich [deceased]; SEMENCHENKO, V.K., prof., red.; CHERNYAK, L.Ye., red.; ERUDNO, K.F., tekhn.red.

[Selected works on physics] Izbrannye trudy po fizike. Pod red. i s primechaniiami V.K.Semenchenko. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1961. 436 p. (MIRA 14:6)
(Physics)

YAVOYSKIY, Vladimir Ivanovich; CHERNYAK, L.Ye., red.; MIKHAYLOVA, V.V., tekhn. red.

[Theory of steel production processes] Teoriia protsessov proizvodstva stali. Moskva, Metallurgizdat, 1963. 820 p. (MIRA 16:12)

(Steel—Metallurgy)

ZHIGAREV, Andrey Aleksandrovich; CHERNYAK, L.Ye., red.

[Electron-beam devices] Elektronno-luchevye pribory. Moskva, Energiia, 1965. 335 p. (MIRA 18:9)

ROGAL'SKIY, B., inzh.; CHERNYAK, M.

Covering precast reinforced concrete roofs with rolled roofing materials. Stroitel' no.7:11-12 Jl '59. (MIRA 12:10)
(Roofs, Concrete) (Roofing)

CHERNYAK, M.A.; BLOKH, K.I.; NAYDUS, G.G.

Method of calculating the cross-section of a continuous glass fiber. Stek. i ker. 15 no.12:13-17 D '58. (MIRA 11:12)
(Glass fibers)

Capacity of agglomerating machines in roasting and sintering sulfide materials. M. A. [illegible] Tsvetn. Met. 1956, No. 2, 33–44

are analyzed and the capac[illegible] of tons/sq m [illegible] for sintering [illegible] of the material [illegible] and of agglomerate pro[illegible]

crate and c is the C. S. [illegible] of the machine tons/sq [illegible] terms of the height h of the [illegible] belt $n = QF/1440\gamma b$ = [illegible] is the area of the machine, [illegible] b is the width of the belt. For satisfactory sintering the charge must contain more than [illegible] of less than 2 mm. and its moisture [illegible] a min. value of γ, otherwise the [illegible]

no MT

AUTHOR: Chernyak, M.A. SOV/136-58-10-7/27

TITLE: Sintering-roasting of Lead Concentrate at the Chimkent and Ust'-Kamenogorsk Lead Works (Aglomeriruyushchiy obzhig svintsovykh kontsentratov na Chimkentskom i Ust'-Kamenogorskom svintsovykh zavodakh)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 10, pp 32 - 39 (USSR)

ABSTRACT: The author examines lead-concentrate sintering practice outside the USSR (Australia, USA, Germany, Sweden and Bulgaria) and at Soviet lead works. He notes that at the Chimkent Works, strand productivity has been raised by increasing the air suction rate and granulating the charge (Ref 5). At the Ust'-Kamenogorsk Works, a bedding system secures uniformity of operation. Through the various improvements made, the level of strand productivity has risen from 0.8 - 1.3 to 1.3 - 2.0 tons of sulphur burnt out per day per m^2 and fuel often is not added. The author discussed some features in which sintering practice at the two Soviet works differs from that at many others; carbonaceous fuel is added to the charge (4% of the weight of the raw mix); sintering is carried out in such a way that the combustion of sulphur and carbon

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SOV/136-58-10-7/27
Sintering-roasting of Lead Concentrate at the Chimkentsk and Ust'-Kamenogorsk Lead Works

finishes over the last wind-boxes of the machine. The addition of coke fines has made the process practically independent of the preparation of the mix (moisture, return-fines content, sizing, suction). At both works, flux and return fines sizings are about the same and the mix covers a wide size range, leading to pronounced segregation and difficulties in maintaining suction but in spite of this, the efficient UZTM-system seals have been replaced by an inferior system (figure). The use of coke at the works the author considers only acceptable as a temporary measure: he recommends that practice be changed to cause combustion to continue only over the first 9-10 windboxes. There are 1 figure, 1 table and 15 references, 9 of which are Soviet, 5 English and 1 Bulgarian.

ASSOCIATION: Giprotsvetmet

Card 2/2

MUKHLENOV, I.P.; TRABER, D.G.; SARKITS, V.B.; RUMYANTSEVA, Ye.S.; MIKHALEV, M.F.; SHMEKKER, Ya.M.; CHERNYAK, M.A.

Testing an apparatus for the oxidation of concentrated sulfur sioxide in a fluidized catalyst bed. Khim.prom. no.11:770-775 N '61. (MIRA 15:1)

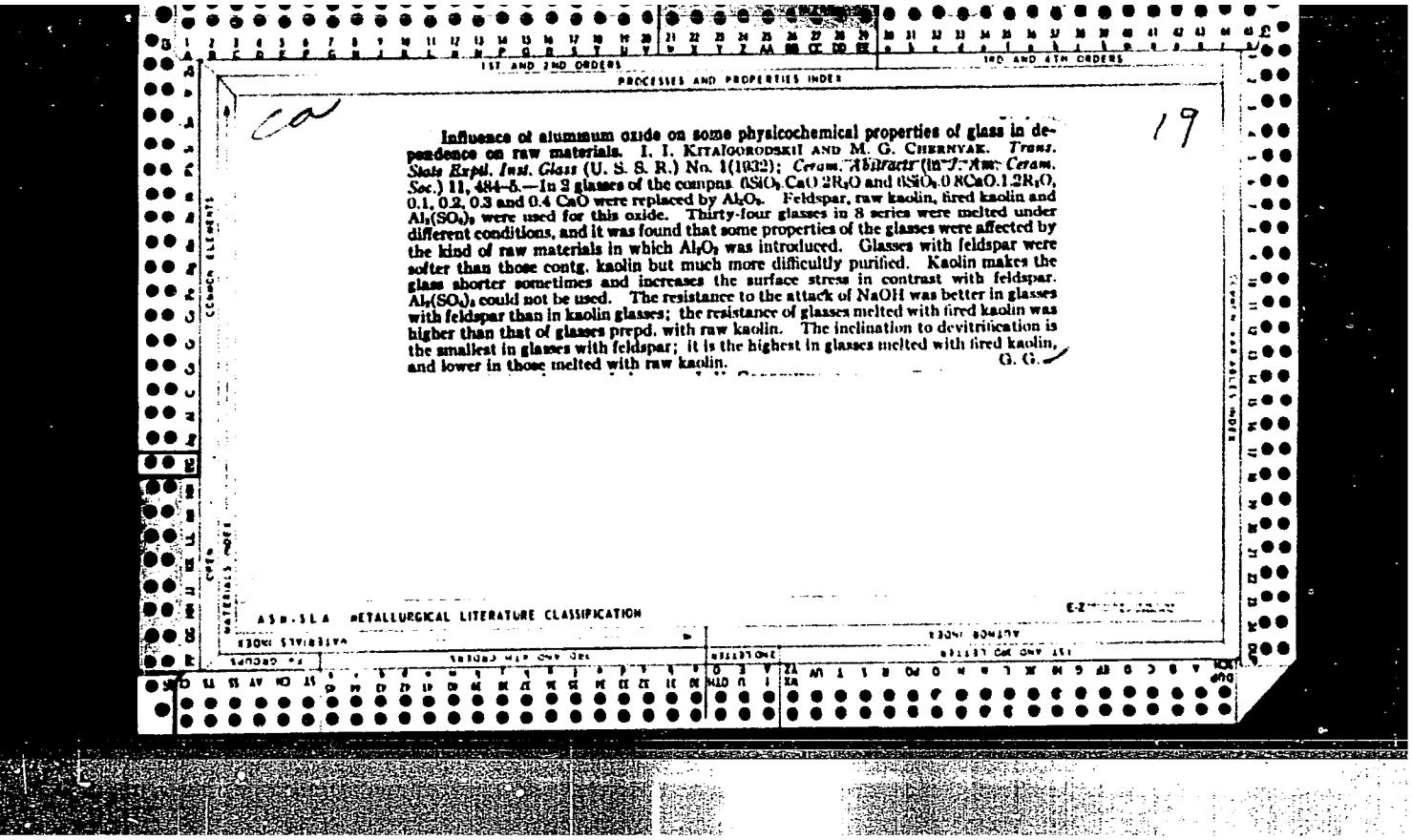
1. Leningradskiy tekhnologicheskiy institut im. Lensoveta, i Leningradskiy zavod "Krasnyy khimik".
(Chemical apparatus) (Sulfur dioxide)
(Catalysis)

AGAPOV, N.P., inzh.; CHERNYAK, M.A., inzh.

Altering a spot welder for the welding of fittings for vacuum equipment. Svar. proizv. no.3:33-34 Mr '64. (MIRA 18:9)

CHERNYAK, M.A.; MEGVINOV, A.A.; MIKHLENOV, I.P.; DOBKINA, Ye.I.; DERYUZHKINA, V.I.

Ignition temperature of a wear-resistant vanadium catalyst for the oxidation of sulfur dioxide. Khim. prom. 41 no.2:35-36 F '65. (MIRA 18:4)



1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

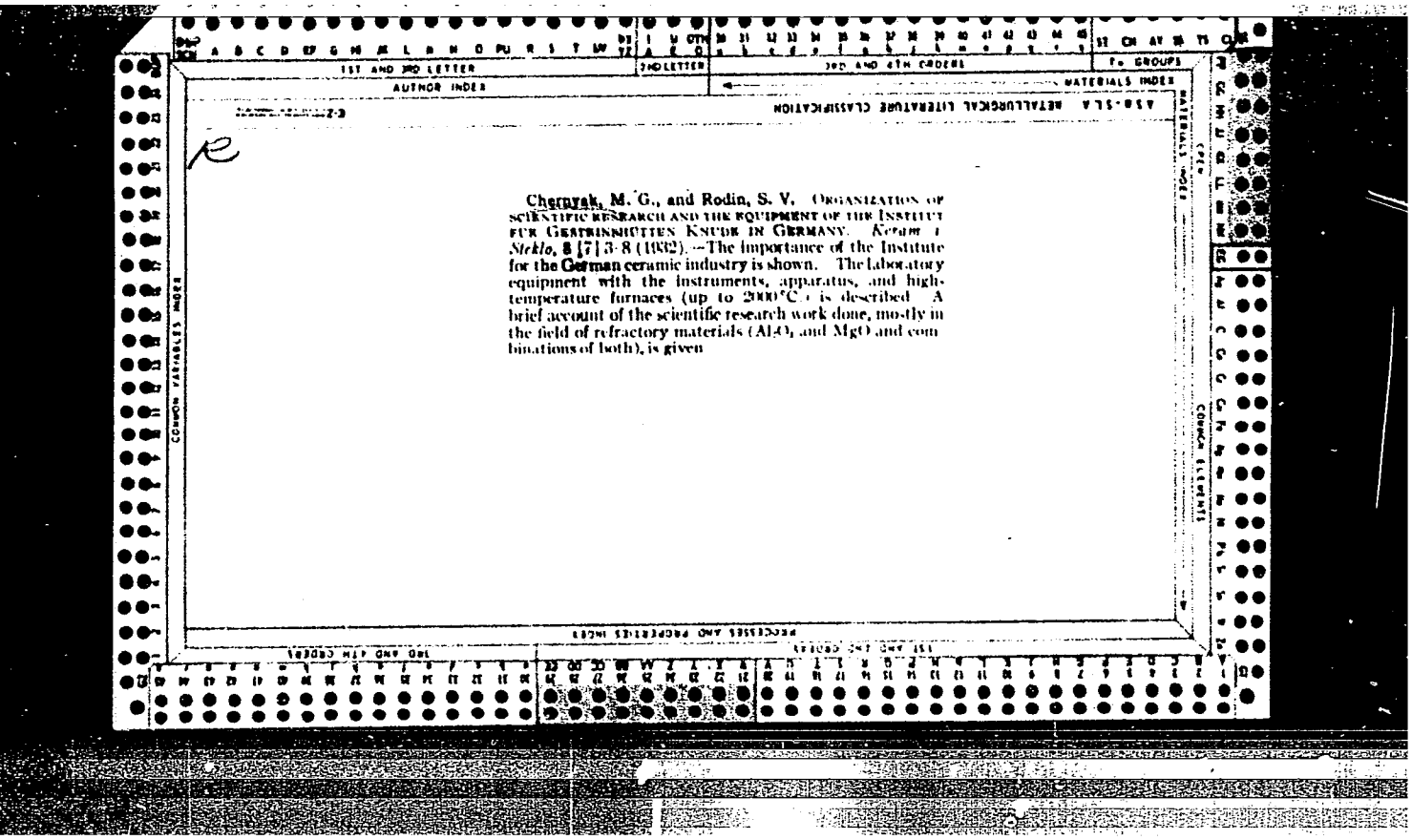
PROCESSES AND PROPERTIES INDEX

ca

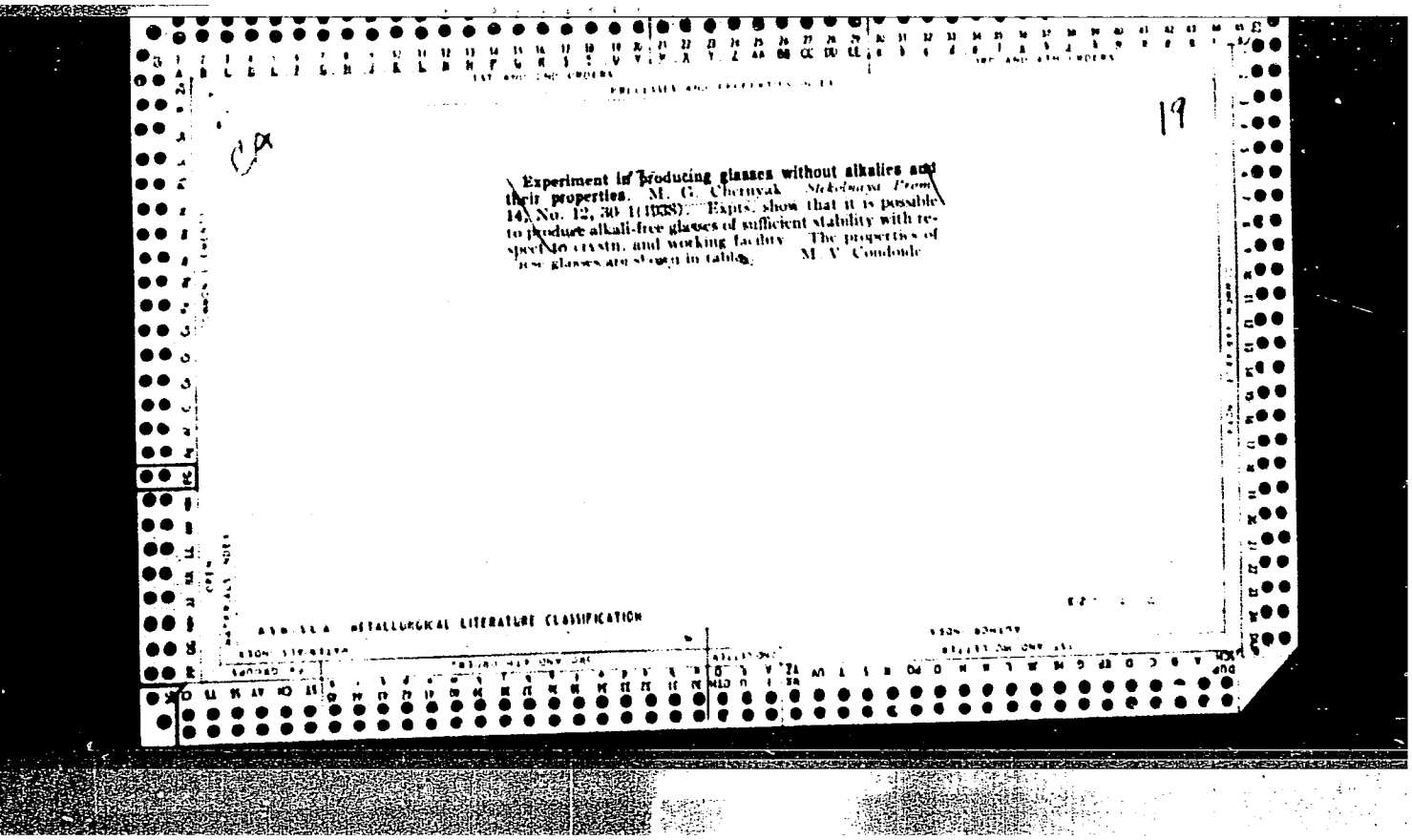
19

Influence of aluminum oxide on some physicochemical properties of glass in dependence on raw materials. I. I. KITAIGORODSKII AND M. G. CHERNYAK. *Trans. State Exptl. Inst. Glass* (U. S. S. R.) No. 1(1932); *Ceram. Abstracts* (in *J. Am. Ceram. Soc.*) 11, 484–5.—In 2 glasses of the compns $6SiO_2$.CaO.$2R_2O$ and $6SiO_2$.0.8CaO.0.$2R_2O$, 0.1, 0.2, 0.3 and 0.4 CaO were replaced by Al_2O_3. Feldspar, raw kaolin, fired kaolin and $Al_2(SO_4)_3$ were used for this oxide. Thirty-four glasses in 8 series were melted under different conditions, and it was found that some properties of the glasses were affected by the kind of raw materials in which Al_2O_3 was introduced. Glasses with feldspar were softer than those contg. kaolin but much more difficultly purified. Kaolin makes the glass shorter sometimes and increases the surface stress in contrast with feldspar. $Al_2(SO_4)_3$ could not be used. The resistance to the attack of NaOH was better in glasses with feldspar than in kaolin glasses; the resistance of glasses melted with fired kaolin was higher than that of glasses prepd. with raw kaolin. The inclination to devitrification is the smallest in glasses with feldspar; it is the highest in glasses melted with fired kaolin, and lower in those melted with raw kaolin. G. G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Chernyak, M. G., and Rodin, S. V. ORGANIZATION OF SCIENTIFIC RESEARCH AND THE EQUIPMENT OF THE INSTITUT FUR GESTEINSHÜTTEN KNUDE IN GERMANY. *Keram i Steklo*, 8 [7] 3-8 (1932).—The importance of the Institute for the German ceramic industry is shown. The laboratory equipment with the instruments, apparatus, and high-temperature furnaces (up to 2000°C.) is described. A brief account of the scientific research work done, mostly in the field of refractory materials (Al_2O_3 and MgO and combinations of both), is given



Experiment in producing glasses without alkalies and their properties. M. G. Chernyak. *Steklo i Keram.* 14, No. 12, 30-1 (1938). Expts. show that it is possible to produce alkali-free glasses of sufficient stability with respect to crystn. and working facility. The properties of new glasses are shown in tables. M. V. Condoule

19

A V S A METALLURGICAL LITERATURE CLASSIFICATION

CHERNYAK, M.G.

Electric furnace for glass-fiber production. Patent U.S.S.R. 79,005, Dec. 31, 1949.
(CA 47 no.19:10193 '53)

CHERNYAK, M. G.

Chernyak, M. G. - "Fiber glass, a new material used in engineering," In the symposium: Fiz.-tekhn. svoystva i primeneniye steklovoloknistykh materialov, Moscow-Leningrad, 1949, p. 5-15

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949)

CHERNYAK, M. G.

"Repair of Electrical Equipment with Glass Insulation Material," Leg. prom., No.3, 1952

CHERNYAK, M. G.

Glass Manufacture

Improving production techniques of quality glass. Leg. prom. 12 no. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952, Uncl.

CHERNYAK, M.G., kandidat tekhnicheskikh nauk.

Adopting improved technology and introducing new techniques in glass manufacture. Leg.prom. 14 no.11:7-10 N '54. (MLRA 7:12)

1. Nauchnyy rukovoditel' VNIIsteklovolokna.
(Glass manufacture)

CHERNYAK, M.G. kandidat tekhnicheskikh nauk

"Work organization and technical norms in the glass industry." V.A.Gorskov. Reviewed by M.G.Cherniak. Leg.prom.15 no.7:55-56 Jl'55. (MLRA 8:10)

(Glass industry)

Chernyak, M. G.

72-11-6/9

AUTHOR: Chernyak, M.G.

TITLE: The Production of Glass-Fiber Materials and the Ways for Their Further Development (Proizvodstvo steklovoloknistykh materialov i tekhnicheskiye puti yego dal'neyshego razvitiya)

PERIODICAL: Steklo i Keramika, 1957, Nr 11, pp. 16 - 22 (USSR)

ABSTRACT: Among the synthetic materials of the past 10 years glass fiber and its products take an important rank. Due to their valuable properties: fire- and corrosion proof, high tensile strength, small specific weights, excellent electric- thermal- and sound-insulating indices, glass fiber materials are constantly finding wider application in various fields of technical engineering. The continuous production by means of drawing-pass rings is carried out for the textile fiber (ϕ 3 - 9 μ) of electric furnaces but also, for the purpose of heat- and sound-insulation (ϕ 25 - 35 μ), of air furnaces with oil heating. This production had been scientifically prepared by research- and experimental constructions. (The scientific research laboratory for glass fiber was found in 1946). Certain technical progress was achieved as follows: 1.) In the technology of the production of glass ball of alumoborosili-

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The Production of Glass-Fiber Materials and the Ways for Their Further Development

cate - glass with $R_2O < 2$ % content.
2.) In the construction of apparatus and the operation for molding glass fiber.
3.) In the textile-working technology of glass fibers.
4.) In the development of methods and processes for the purpose of obtaining new kinds of glass-fiber materials.
5.) In the creation of new kinds of fibers and the technology of their working.

Furthermore for the production of glass balls the construction of a continuous glass-melting furnace with an operation period of 10 - 12 months was developed and introduced to industry which was only possible by using quartz glass. The introduction of a high-capacity automaton for the molding of glass balls not only replaced difficult hand-work but also brought about a much better utilization of the glass (85 - 90 %), increased the quality of the glass balls and reduced their costs (table 1). The increase of production capacity and the reduction of the production costs of textile glass fiber are shown in figures 1, 2 and 3. In figure 4 we see the total view of a glass- automatic-spinning-frame. In table 2 the distribution of the costs of different works departments is shown from which we see that the costs of the weav-

The Production of Glass-Fiber Materials and the Ways for Their Further Development

ing department exceed those of other departments. In figure 5 the increase of the production volume of glass fibers is shown in % compared with 1950. Furthermore, the use of glass fibers in various fields is described in detail. Figure 6 shows the scheme for the production of glass linen for the production of glass textolite and it is also described in detail. In figure 7 the scheme for the production of electric insulating paper by means of staple glass-fibers is shown. In the end a great number of problems are mentioned which are to be tackled in the near future. In the beginning of this work a total view of the Gusev glass factory imeni Dzerzhinskiy is shown. There are 8 figures and 2 tables.

AVAILABLE: Library of Congress

Card 3/3

Chernyak M. G.

AUTHORS: Chernyak, M. G., and Naydus, G. G. 57-10-10/33

TITLE: An Investigation of the Wettability of Some Materials by Melted Glass (Issledovaniye smachivayemosti rasplavlennym steklom nekotorykh materialov).

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 10, pp. 2268-2272 (USSR).

ABSTRACT: The results of the investigation on the wettability of drawn platinum and of its alloys and a number of other materials by melted glass at temperatures, which correspond to the viscosity values at which the formation of glass fibre takes place, are detailed here. With respect to the question, wether it is possible to replace precious metals partly or entirely by quartz or ceramic materials, these have been studied as well. A more delicate method for the determination of the wettability on the aforementioned conditions is described. On the basis of the investigations the metals and alloys under consideration can be arrayed according to the increase in wettability in the following order. 93 % Pt + 7 % Rh < 100 % Pt < 75 % Pt + 25 % Pd < 25 % Pt + 75 % Pd < 100 % Pd. A comparison of these data with those from the All-Union Scientific Research Institute for Glass

Card 1/2

An Investigation of the Wettability of Some Materials by Melted Glass. 57-lo-lo/33

Fibres shows a good consistency of the results on wettability as well as on the immediate connection between the degree of wettability and the degree of oxydation.
There are 3 tables, 3 figures and lo Slavic references.

ASSOCIATION: All-Union Scientific Research Institute for Glass Fibres, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo volokna, Moskva).

SUBMITTED: February 6, 1956.

AVAILABLE: Library of Congress.

Card 2/2

15(2)

AUTHORS: Chernyak, M. G., Blokh, K. I., Naydus, G. G.

SOV/72-58-12-4/23

TITLE: Calculation Method of the Diameter of a Continuous Glass Fiber (Metod rascheta diametra nepreryvnogo steklyannogo volokna)

PERIODICAL: Steklo i keramika, 1958, Nr 12, pp 13 - 17 (USSR)

ABSTRACT: The dimension method, first adopted by Professor L.S.Eygenson in connection with the conditions of vitrification, was used for the solution of this problem (Refs 1 and 2). This method is based on results obtained from experimental investigations. Formula (1) generally represents the dependence of the fiber diameter on the parameters determined in the experimental way. By a number of mathematical transformations, the authors obtain formulae (2) and (3). The authors further describe the experiments, contained in formulae (1) and (2), which were carried out in order to obtain the required ex-

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perimental values. By a further transformation of the formulae, the authors obtain formulae (4) and (5), by which the values of the coefficient K_2 as well as the diameter of the fiber can be calculated. Tables 1 to 6 show the values of the drawing velocity (w), the fiber diameters obtained both experimentally (d_{exp}) and by calculation (d_{cal}), using various annular drawing dies and the same glass mass temperature of 1240°. The average deviations of the experimental from the calculated values amount to 6.7% and 3.5%. There are 6 tables and 2 Soviet references.

5(1)

AUTHOR: Chernyak, M. G., Candidate of Technical Sciences SOV/64-59-1-4/24

TITLE: Fiber Glass - an Important Kind of Chemical Fiber (Steklovolokno - vazhnyy vid khimicheskogo volokna)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 1, pp 17-19 (USSR)

ABSTRACT: In the last ten years the production of fiber glass has received a very strong impetus. In the USA, for instance, 4000 articles with different names made of glass fibers are available at present. This increase in production figures may also be seen in a survey on the production of textile fiber glass in western countries between 1954 and 1959 (Table). This development of production is due to the good properties of fiber glass products. For example, the tractive power of an electric engine with an electromotor DPD-340 insulated with fiber glass increases by 12.5 %, i.e. an additional load capacity of 250 tons. In the USSR the application of fiber glass in the electrical industry will bring a saving or a useful effect of 1.5 billion rubles. A number of examples and advantages in the

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application of glass fibers are given, and it is stated that the fiber glass production is to be much increased in the new Seven-Year Plan. For this purpose some faults will have to be eliminated such as the fact that different organizations are concerned with the building of fiber glass production plants independently from each other in Leningrad GPI-3 and Giprosteklo, and in Moscow GPI-2 and PKB instituta stekla (PKB of the Glass Institute). An example for imperfect coordination of research work are the investigations of the possibility of replacing the iron reinforcement in reinforced concrete by a fiber glass reinforcement which are carried out independently from each other by the YuzhNII Akademii arkhitektury i stroitel'stva USSR (YuzhNII Academy of Architecture and Building UkrSSR), by the Kiyevskiy politekhnicheskiy institut (Kiyev Polytechnic Institute) and others. There are 1 table and 1 reference.

ASSOCIATION: VNII steklyannogo volokna (VNII o. Fiber Glass) (All-Union Scientific Research Institute of Fiber Glass)

15 (2)

S/072/60/000/02/009/021
B015/B003

AUTHOR: Chernyak, M. G.

TITLE: Some Technical Problems in the Production of Glass Fibers and Glass Plastics

PERIODICAL: Steklo i keramika, 1960, Nr 2, pp 28 - 31 (USSR)

ABSTRACT: Figures 1 and 2 indicate that the production of glass fibers and glass plastics is to be raised until 1965 on the basis of the Seven-year Plan. In this connection the author describes the present stage of development in this field and points out technical problems to be solved as soon as possible. The following problems are stressed: reduction of boric acid content in glass, since boric acids are shortage goods; elaboration of more rational production methods for glass fibers, perfection of the present technology and efficiency increase of equipment; research of greasing compositions (since several years the Institut steklovolokna (Institute of Glass Fibers) has attempted to solve this problem); production of protective coatings for glass fibers. In 1958 the Institute obtained glass without boron for the production

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of rayon fibers. This glass composition was successfully introduced into the Merefa Works of the Khar'kov sovnarkhoz and into the plant "Proletariy" of the Luganskiy sovnarkhoz. By perfection of glass-fiber production and transition to stronger fibers it was made possible to increase the output of electric furnaces (Fig 3) and the tensile strength of fibers (Fig 4). The absence of a coordination center for the tasks of many organizations in the field of glass plastics production is described to be an essential shortcoming. Only recently the Gosudarstvennyy komitet Soveta Ministrov SSSR po khimii (State Committee of the Council of Ministers of the USSR for Chemistry) was entrusted with this task. For the solution of a series of technical problems it is recommended to make use of foreign experience such as of the Scientific Research Association "Polyester Glass Plastics" in Eastern Germany. There are 4 figures.

S/191/60/000/006/013/015
B004/B054

AUTHOR: Chernyak, M. G.

TITLE: On the Manufacture of Reinforcing Material for Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 6, pp. 51 - 53

TEXT: Special kombinats for the production of glass-reinforced plastics are to be established in 1959-1965. Fig. 1 shows the planned increase of production of various glass fiber materials to be achieved in the same plants. The author reports on some problems concerning the technology of glass fiber production which are being dealt with at the Vsesoyuznyy nauchno-issledovatel'skiy institut steklovolokna (All-Union Scientific Research Institute of Glass Fiber). One of these problems is the reduction of the boric acid content by 40% without reducing the glass fiber quality. The Merefskiy steklozavod Khar'kovskogo SNKh (Merefa Glassworks of the Khar'kov sovnarkhoz) and the zavod "Proletariy" ("Proletariy" Plant) are already producing boron-free glass staple fiber. Oil compositions for improving the electroinsulating properties, protective coatings

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against moistness, the increase of the hydrophobic nature, and of the adhesion to the binding agent are being tested. The assortment of glass fibers was extended by fillers of thickened fibers. Criticized are the deficient technology developed by the laboratoriya anizotropnykh materialov Akademii nauk SSSR (Laboratory of Anisotropic Materials of the Academy of Sciences of the USSR) for the production of SVAM (SVAM), as well as the uneconomical production of АГ-4 (AG-4) molding material. On a suggestion made by the Magadanskiy steklozavod (Magadan Glass-works), the use of volcanic ash is being studied. The efficiency of glass melting furnaces could be increased by improvements (Fig. 2). A new glass spinning unit is being developed in cooperation with the kiyevskiye eksperimental'nyye masterskiye (Kiyev Experimental Workshops). Machines for the production of roofing material and mats of ВВ (VV) glass fiber are designed in cooperation with the NIIPM (Scientific Research Institute of Plastics). Further studies concern the technology and equipment for the continuous production of glass-fiber heat-insulating sheets. The author suggests the establishment of a coordination center for the development of glass-reinforced plastics technology. There are 2 figures.

S/072/60/000/008/002/007/XX
B021/B054

AUTHORS: Chernyak, M. G., Blokh, K. I., Aliyev, A. I., Kapustkin, D. M.

TITLE: Study of the Flow of Glass in Electric Furnaces for Glass Fiber Production

PERIODICAL: Steklo i keramika, 1960, No. 8, pp. 4 - 7

TEXT: The present paper is a first attempt to study the flow of glass in small electric furnaces for glass fiber production. Besides glass pellets dyed with cobalt oxide to investigate flows in glass crucibles, the authors used radioisotopes as indicators. The experiments were carried out in an industrial plant for glass fiber production. The glass crucible was fed with glass pellets of known chemical composition. The pellets weighed 9 - 10 g each, and part of them were tagged by radioisotopes. The moment of feeding with tagged pellets and the instant of appearance of radioactivity in the glass fiber were fixed in the investigation. Besides,

Study of the Flow of Glass in Electric Furnaces for Glass Fiber Production

S/072/60/000/008/002/007/XX
B021/B054

the authors studied the distribution of activity by the groups of spinnerets, and its change with time. The glass fibers were wound on a spool. The spool axis formed an angle of 35 - 45° with the front of spinnerets. The activity of samples was measured on a Б-2 (B-2) plant by means of АС-1 (AS-1) and БФЛ (BFL) counters. Uranium oxide and Ca^{45} were used as indicators. Fig. 4 shows experimental results obtained with a pellet activated by UO_2. Further experiments were made with Ca^{45} since the great difference between the atomic weights of uranium and the glass elements became clearly noticeable in feeding with several pellets. The experiments, integrated by data of temperature distribution in the glass crucible, permit a probable diagram to be plotted for the flow of glass. Temperature distribution measurements were made under the supervision of L. G. Zhivov, Candidate of Technical Sciences. There are 7 figures and 1 Soviet reference.

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B021/B054

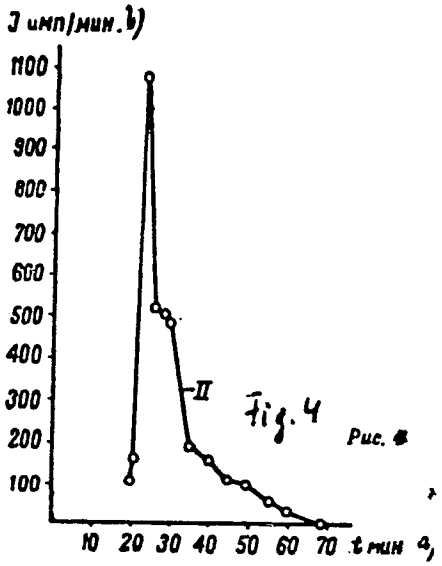

Fig. 4

Рис. 4

Legend to Fig. 4: a) minutes, b) J imp/min

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CHERNYAK, M.G., red.; ASLANOVA, M.S., red.; ZAK, A.F., red.; IVANOVA, A.I., red.; KUTUKOV, S.S., red.; PANASYUK, V.I., red.; SHKOL'NIKOV, Ya.A., red.; VASKEVICH, D.N., red.; SHPAK, Ye.G., tekhn.red.

[Methods for testing and quality control of fiber-glass materials] Metody issledovaniia i kontrolia steklovoloknistykh materialov; sbornik statei pod red. M.G. Cherniaka. Moskva, Goskhimizdat, 1963. 92 p. (MIRA 16:6)

1. Vsesoyuznyi nauchno-issledovatel'skii institut stekliannogo volokna.

(Glass fiber industry--Testing)

CHERNYAK, M.G., kand. tekhn. nauk; ZUBOVA, S.K., inzh.

Changes in the strength of glass threads with age. Stek. i ker. 20 no.6:23-26 Je '63. (MIRA 16:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo volokna.

(Glass fibers—Testing)

CHERNYAK, M.G.

Some problems of work safety in the operation of rollers in the rubber industry. Kauch. i rez. 22 no.10:52-54 O '63.
(MIRA 16:11)

1. Leningradskiy zavod rezino-tekhnicheskikh izdeliy.

L 16936-65 EWT(m)/EWP(a)/EPF(c)/EPR/T/EWP(j)/EWP(b) Pc-4/Pq-4/Pr-4/Ps-4
WW/RM/WH

ACCESSION NR: AP5002739 S/0072/64/000/009/0001/0004

AUTHOR: Chernyak, M. G. (Candidate of technical sciences)

TITLE: Glass fiber and technical progress (Urgent problems of the glass fiber industry)

SOURCE: Steklo i keramika, no. 9, 1964, 1-4

TOPIC TAGS: fiberglass, industrial condition

ABSTRACT: The author discusses the advantages, regions of application, and needs for further development of glass fiber in the light of expanded use of synthetic materials in modern technology. Increased requirements for glass fiber in such applications as construction and electrical insulation materials of plastics reinforced with glass fiber are outlined, and examples are given of the economic advantages of the use of glass fiber as replacements for older types of materials (increased heat and moisture resistance of electrical insulation, resulting in an increase in the service period of insulated engines; replacement of filter cloths of organic fibers by glass cloths, lower weight of insulation for aircraft construction, etc.).

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L 16936-65

ACCESSION NR: AP5002739

In addition to economic advantages, the effectiveness of the use of glass fiber materials for the solution of otherwise insoluble technological problems is noted. Greater attention to expansion of production of glass fiber is called for; potential consumers of glass fiber materials are indicated: the pulp and paper industry, gas and petroleum industry. The basic technical lines in the development of production technology of continuous glass fiber are enumerated: reexamination of [illegible] of the quality of glass fiber materials as a function of the diameter of the elementary fiber; creation and introduction of one-stage production processes, automated units and lines, combining the manufacture of glass fiber and its reprocessing into the finished product into a continuous single process; introduction of a technology of production of glass fiber from more readily available raw materials, or decreasing their consumption [illegible] of products for different purposes from [illegible] development and introduction of more efficient [illegible] inneret glass forming vessels, as well as winding apparatuses; reduction of production wastes; development of new materials from other types [illegible] fiber, produced by

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L 16936-65

ACCESSION NR: AP5002739

more efficient methods, and their use to replace continuous fiber as much as possible. Results already achieved in increasing the quality and expanding the assortment are noted, and the causes of the lag in their introduction into practice are discussed. Broader automation of manufacturing processes, better training of personnel, and an expansion of the front of scientific research and experimental work at the glass fiber plants are called for.

ASSOCIATION: Institut steklovolokna (Glass Fiber Institute)

SUBMITTED: 00	ENCL: 00	SUB CODE: MT, GO
NO REF SOV: 000	OTHER: 000	JPRS

Card 3/3

L 52167-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPR/EWP(j)/T/EWP(b) Pc-4/
Pq-4/Pr-4/Ps-4/Pt-7 WW/RM/WH

ACCESSION NR: AP5015765 UR/0072/65/000/006/0026/0029
666.212

AUTHOR: Chernyak, M. G. (Candidate of technical sciences); L'vov, B. S. (Candidate of technical sciences)

TITLE: The optimum diameter of single glass fibers in reinforcing filler for glass-reinforced plastics

SOURCE: Steklo i keramika, no. 6, 1965, 26-29

TOPIC TAGS: glass fiber reinforced plastic, reinforced plastic, glass fiber, diameter

ABSTRACT: A study has shown the expediency of increasing the diameter of glass fibers used in glass-reinforced plastics (GRP) from the 5—7 micron size, which is currently standard in the Soviet Union. In going from thinner to thicker fibers the glass fiber content of GRP was shown to increase as follows:

$$X_D = \frac{KD^3}{\left[d\left(\sqrt{\frac{K}{X_d}} - 1\right) + D\right]^3}$$

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where X_D is the content by volume of fiber of diameter D, X_d is the content by volume of fiber of diameter d, and K is a constant [illegible]. An increase in the glass fiber content of GRP, in turn, was [illegible] material (see Fig.1 of the Enclosure). Increasing fiber thickness also raised the chemical resistance of the GRP. In addition, an increase in fiber thickness lowers the cost, increases the productivity, and simplifies the technology of the processes involved in the production of glass fiber [illegible] ment of glass fiber products currently [illegible] a view toward switching to thicker fibers [illegible] mula.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut stekla [illegible]
Union Scientific Research Institute of Glass [illegible]

SUBMITTED: 00 ENCL: 01 [illegible]

NO REF SOV: 004 OTHER: 001 ATD PRESS: 4018

CHERNYAK, M.G.; ASLANOVA, M.S.; VOL'SKAYA, S.Z.; KUTUKOV, S.S.; SIMAKOV, D.P.; NAYDUS, G.G.; BOVKUNENKO, A.N.; KOVALEV, N.N.; SHKOL'NIKOV, Ya.A.; ZHIVOV, L.G.; KOVALEV, N.P.; KOZHUKHOVA, N.V.; KOROLEVA, A.Ye.; VINOGRADOVA, A.M.; OSIPOVA, O.M.; BADALOVA, E.I.; BRONSHTEYN, Z.I.; L'VOV, B.S.; KRYUCHKOV, N.N.; BLOKH, K.I.; MASHINSKAYA, N.I., red.

[Continuous filament glass fibers; technology fundamentals and their properties] Nepreryvnoe stekliannoe volokno; osnovy tekhnologii i svoistva. Moskva, Khimiia, 1965. 319 p. (MIRA 18:8)

BASKOV, B.I., inzh.; KUTUKOV, S.S., kand. tekhn. nauk; CHERNYAK, M.G., kand. tekhn. nauk

Investigating the tearing of a continuous glass fiber depending on the level of the glass batch. Stek. i ker. 22 no.7:14-16 Jl '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut steklovolokna.

CHERNYAK, M.G., kand.tekhn.nauk; KUTUKOV, S.S., kand.tekhn.nauk; BASKOV, B.I., inzh.

Production of a continuous glass fiber with continuous hydrostatic pressure of the glass batch. Stek. i ker. 23 no.1:24-26 Ja '66. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut stekloplastikov i steklyannogo volokna.

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ACC NR: AP6016028 (N) SOURCE CODE: UR/0072/66/000/001/0024/0026

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TITLE: Producing continuous glass fibers at high hydrostatic molten glass pressure

SOURCE: Steklo i keramika, no. 1, 1966, 24-26

TOPIC TAGS: glass fiber, feed mechanism, hydrostatic pressure, glass, glass manufacturing machinery, bushing

ABSTRACT: The authors study the effect of the following parameters on deformation of continuous glass fibers: temperature of the glass in the formation zone, rate at which the fibers are drawn, level of the glass above the bushing, diameter of the bushing orifice at high levels of glass above the bushing. The glass melting apparatus maintains a molten glass level from 200 to 600 mm above the bushing. The test feeding system has 5 cylindrical bushings. The construction of the feeding system makes it possible to vary the diameter of the bushing from 0.6 to 2.2 mm. Bushing height is maintained at 3.6 mm. Drawing rate varies from 1000 to 3000 m/min and the temperature

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of the bushing plate varies from 1160 to 1240°. The limits on temperature variation and rate of drawing are determined by the liquidus temperature for the given glass (1160°) and by the stability of the fiber forming process. Alumoborosilicate alkali-free glass is used in all experiments. The results show that the diameters of bushing orifices have the greatest effect on the diameter of elementary fibers. Fiber diameter diminishes with increased viscosity of the glass. The diameter of fibers increases as the level of the glass is raised. A formula is given for determining the relationship between the fiber diameter and the technological parameters of the formation process when a glass level of 140-180 mm is maintained. The results show that this formula does not hold for a glass level higher than 200 mm. A 200-bushing feeder with a high glass level and with bushing orifices 1.4 mm in diameter is used to verify the experimental results obtained on the test feeder with five bushings of various diameters. The resultant data show that the proposed conditions for producing fibers save time and increase the productivity of electric ovens used for melting glass. These conditions may be recommended for producing fibers with a diameter of 9 μ using the one-step method. Orig. art. has: 1 figure, 2 tables, 1 formula.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 000

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CHERNYAK, M.I.

CA

10

Bisulfite compounds. XIV. Structure of the bisulfite compound of 2-methyl-1,4-naphthoquinone and its reaction with phenylhydrazine. V. N. Ufimtsev and M. I. Chernyak. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 1883-7(1951); cf. *C.A.* 43, 2589*f*. The *bisulfite compd.* of *2-methyl-1,4-naphthoquinone* reacts normally with *PhNHNH*$_2$; on standing, a mixt. of the components in H_2O in the presence of AcOH yields brown-orange needles of the hydrate $C_{11}H_9O_5N_2SNa.5H_2O$, which, treated with cold EtOH and pptd. with Et_2O, yields the bright yellow-green *anhyd. deriv.*; this can also be obtained from the hydrate on vacuum drying and treatment with EtOH. The K salt of the bisulfite adduct reacts similarly, yielding the *K analog*, yellow needles in anhyd. form, orange-red mass in the hydrated form (not analyzed for H_2O content). The reaction with $PhNHNH_2$ does not prove the presence of a carbonyl group in the compd. since the reaction may proceed by replacement of the OH group of the bisulfite adduct by a PhNHNH residue, which with alkali yields the phenylhydrazone of the original carbonyl compd. (tautomeric with the azo deriv. of the corresponding naphthol). The bisulfite adduct of $1,5\text{-HOC}_{10}H_6SO_3H$ could not be acetylated by hot Ac_2O; the same holds for the bisulfite adducts of resorcinol and of 2-methyl-1,4-naphthoquinone, thus disproving the contention of Bochvar, *et al.* (*C.A.* 43, 180*h*), concerning the structure of these adducts. G. M. K.

CHERNYAK, M.I.; BYELYANKIN, F.P., diysnyy chlen.

Measurement of plastic deformations in the deformation process. Dop.AN URSR no.6:471-474 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Byelyankin). 2. Instytut budivel'noyi mekhaniky Akademiyi nauk Ukrayins'koyi RSR (for Chernyak).
(Deformations (Mechanics))

CHERNYAK, M.I.; BYELYANKIN, F.P., diysnyy chlen.

Decreasing the fatigue limit of St. 45 steel under cold working of slight intensity. Dop.AN URSR no.6:475-478 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Byelyankin). 2. Instytut budivel'noyi mekhaniky Akademiyi nauk Ukrayins'koyi RSR (for Chernyak).
(Steel) (Metals--Fatigue)

UFIMTSEV, V. N., CHERNYAK, M. I.

Bisulfite Compound.

Bisulfite compounds. Part 16. Bisulfite compound of 1-amino-8-naphthol-2, 4-disulfonic acid. Zhur. ob. khim. 22 no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 Unclassified.

CHERNYAK, M.I.

Determining the coefficient of lateral deformation using a tensile strength diagram. Dop. AN URSR no.4:305-308 '54. (MIRA 8:4)

1. Institut budivel'noi mekhaniki Akademii nauk URSR. Predstavleno deystvitel'nym chlenom Akademii nauk USSR F.P.Belyankinym.
(Deformations (Mechanics))

CHERNYAK, M.I.

Chernyak, M. I. An analytic expression of the volume strain under stretching in the elastic-plastic region. Dopovidi Akad. Nauk Ukrain. RSR 1955, 43–45. (Ukrainian. Russian summary)

A very brief discussion is given of elastic-plastic compressibility under conditions of uni-axial stress. The basis for the results stems from previous work by the author and seems to be at least partly empirical.

H. G. Hopkins (Sevenoaks).

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HS

CHERNYAK, M.I.; PETRENKO, I.P.

The comparative effect of rolling steel with rollers and plastic stretching on the fatigue limit of 12KhN3A steel. Dop. AN URSR no.1:50-51 '55. (MLRA 8:7)

1. Institut budivel'noi mekhaniki AN URSR. Predstaviv diysniy chlen AN URSR F.P. Belyakin.
(Steel--Fatigue)

CHERNYAK,M.I.

Determining the coefficient of lateral deformation under stresses in a wide range of elastic and plastic deformations. Dop. AN URSR no.2:134-138 '55. (MLRA 8:11)

1. Institut budivel'noi mekhaniki Akademii nauk URSR. Predstaviv diysniy chlen Akademii nauk URSR F.P.Belyankin
(Deformations (Mechanics))

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AUTHOR: Chernyak, M.I.

TITLE: Peculiarities in fatigue-strength variations of metals in the region of small plastic deformations in relation to their previous elongation

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 11, 1960, 1492 - 1495

TEXT: In this investigation the author studied the effect of previous plastic tensile deformation on the fatigue strength of structural steels, types: 45, 40KH, 12KHNZA and 15KHSND (NL-2). The first three were submitted to fatigue tests by bending with torsion, the last one to bending in one plane only. [Abstractor's note: No description of testing devices or experiments given]. The variations in the fatigue strength limit, depending on preliminary elongation, were evaluated by means of a coefficient K:

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